

ABSTRACT OF THE DISCLOSURE

Process for the arc welding in pulsed mode of one or more workpieces made of carbon steel, stainless steel, aluminum or aluminum alloy, with the use of a gas shield, in which an electric arc welding torch is supplied with at least one consumable wire at a wire feed speed ( $V_{wire}$ ) and the consumable wire is subjected to current pulses, in order to melt the end of the consumable wire in which, for a given pulse frequency, a wire feed speed ( $F_{wire}$ ), a mean current ( $I_{mean}$ ) value and an rms current ( $I_{rms}$ ) value are chosen, so as to detach one drop of molten metal per current pulse and to obtain a low degree of spatter.